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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,762	07/19/2004	Wataru Hattori	8040-1059	2934
466	7590	11/15/2005	EXAMINER	
YOUNG & THOMPSON				MULPURI, SAVITRI
745 SOUTH 23RD STREET				
2ND FLOOR				
ARLINGTON, VA 22202				
				ART UNIT
				PAPER NUMBER
				2812

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/501,762	HATTORI, WATARU
	Examiner Savitri Mulpuri	Art Unit 2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 23 August 2005.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-9 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. \See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

## DETAILED ACTION

This action is in response to the applicant 's communication, providing English translation of the foreign priority document , filed on 8/23/2005.In view of the verified translation of the Japanese priority application, applied reference by Lee et al in previous office is now withdrawn

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-6, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al (2202/0094496 A).

Choi et al et al teaches a method of making surface acoustic wave device (SAW) by the following process steps (see page 2, para 0021). Though Choi et al teaches SAW, but does not mention electrode formation on piezoelectric substrate.

With respect to claims 1, 4, 6, 9 depositing transfer layer "18" on substrate "20"; providing a template "12" of silicon or silicon oxide having recess and protrusions, coated with an organic layer "13"(see page 6, para 0096-0097) pressed against transfer layer coated on substrate "20" so as to form resist groove pattern (see fig. 2 A-2 E and

related description). Choi et al teaches different devices including SAW (see page 2, para 0021), wherein the substrate must be piezoelectric material to form electrode pattern or wiring using resist pattern.

With respect to claims 5, 8 template is formed by electron beam exposure (see page 12, para 0163)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3, 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al in combination with Admitted prior art.

Choi et al do not teach electrode formation, ashing and width electrode pattern  
Admitted prior art teaches surface acoustic wave device by the following process  
steps: providing a piezoelectric substrate; depositing a resist on the substrate and  
performing photolithography and depositing metal on the piezoelectric substrate both on  
the exposed sunbathe and on the resist and lift of the resist to leave the electrode on  
the piezoelectric substrate. With respect to claim 3 Admitted prior art teaches depositing  
electrode first on the substrate and then depositing resist and perform photolithography.  
Admitted prior art teaches resist pattern formed electron beam technique give electrode

width less than 0. 4 microns. It would have been obvious to one of ordinary skill in the art to deposit electrode layer first and then photo resist or vice versa in the invention of Choi et al to form electrode formation because either way result electrode pattern on the piezoelectric substrate . It also would have been obvious to one of ordinary skill in the art to use ashing to remove organic particles resulted from the resist.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in combination with Choi et al (2002/0094496A)

With respect to claims 1-2, 9 Admitted prior art teaches surface acoustic wave device by the following process steps: providing a piezoelectric substrate; depositing a resist on the substrate and performing photolithography and depositing metal on the piezoelectric substrate both on the exposed sunbathe and on the resist and lift of the resist to leave the electrode on the piezoelectric substrate. With respect to claim 3 Admitted prior art teaches depositing electrode first on the substrate and then depositing resist and perform photolithography. Admitted prior art teaches resist pattern formed electron beam technique give electrode width less than 0. 4 microns.

Admitted prior art only teaches photolithography but not does not teach imprinting technology to form SAW.

Choi et al et al teaches a method of making surface acoustic wave device (SAW) by the following process steps (see page 2, para 0021). Though Choi et al teaches SAW, but does not mention electrode formation on piezoelectric substrate.

With respect to claims 1, 4, 6, 9 depositing transfer layer "18" on substrate "20"; providing a template "12" of silicon or silicon oxide having recess and protrusions,

coated with an organic layer "13"(see page 6, para 0096-0097) pressed against transfer layer coated on substrate "20" so as to form resist groove pattern (see fig. 2 A-2 E and related description). Choi et al teaches different devices including SAW (see page 2, para 0021), wherein the substrate must be piezoelectric material to form electrode pattern or wiring using resist pattern.

With respect to claims 5, 8 template is formed by electron beam exposure (see page 12, para 0163)

With respect to claim 7, ashing is obvious process in the invention of Admitted prior art because ashing the photo resist is essential to remove residual material of the resist. It would have been obvious to one of ordinary skill in the art to use ashing after patterning the resist to eliminate organic resist particles to obtain pure electrode pattern on the a piezoelectric substrate.

With respect to claim 8 electrode width of the electrodes less than 0.4 microns because template is formed by electron beam exposure, which produces the template with protrusion and recess with narrow pattern.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bailey (200/0115002 A) also teaches plastic template '230" by using x-ray lithography not by electron beam lithography.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Savitri Mulpuri whose telephone number is 571-272-1677. The examiner can normally be reached on Mon –Fri from 8-4.30.p.m

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt, can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Savitri Mulpuri  
Primary Examiner  
Art Unit 2812